

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION**

RESOLUTION R6T-2006-0021

**SILLER RANCH DEVELOPMENT - EXEMPTION TO A WASTE DISCHARGE
PROHIBITION CONTAINED IN THE WATER QUALITY CONTROL PLAN FOR THE
LAHONTAN REGION**

_____ Placer County _____

WHEREAS, the California Water Quality Control Board, Lahontan Region finds:

1. DMB Highlands Group, LLC (DMB) submitted information to the Regional Water Quality Control Board, Lahontan Region (Water Board) to complete a Report of Waste Discharge (ROWD) and an Application for Clean Water Act Section 401 Water Quality Certification (Water Quality Certification) for the Siller Ranch Development (hereinafter referred to as the "Project"). Information submitted in February 2006 revised the application. The purpose of the Project is to create a destination recreation community with residential and various recreational facilities (golf courses, hiking trails, nature center, tennis facilities, skiing facilities, amphitheater and stage).
2. The Project site is located on 2,177 acres off of Schaffer Mill Road within the southern portion of the Martis Valley, approximately four miles southeast of Truckee, California in Placer County. Martis Creek flows in a southwest to northeast direction across the Project site and is a Truckee River tributary. The Project vicinity and Project site are shown in Attachments "A" and "B," respectively, which are made a part of this Resolution.
3. The Project includes 653 residential units (single family, multi-family, and cottages); an 18-hole golf course with practice facilities and clubhouse; an 18-hole putting course; a family recreation complex; a nature center; an amphitheater with stage and multi-purpose pavilion; multi-event/play fields and parks; a winter recreation area including a ski lift, ski runs; private and public hiking trails; new roads; utilities installation; and open space. The Project also includes erosion control measures and storm water runoff treatment/disposal features. The storm water treatment and disposal facilities are designed to maintain storm water runoff volumes and flow rates into local surface waters at pre-project levels by infiltrating runoff originating from new impervious surfaces. The storm water treatment measures typically involve directing runoff into and through a series of treatment and conveyance facilities (e.g., drop inlets with filtration capability, rock-lined and vegetation-lined swales, sedimentation/infiltration basins, runoff spreading areas, and treatment wetlands) before the runoff enters a surface water. The Project will be constructed in phases, and is scheduled for completion in 2015.

The purpose of this Resolution is to consider granting exemptions to waste discharge prohibitions for components of the Project (hereinafter referred to as "project components") that would impact 100-year floodplain in the Truckee River watershed. Several project components have been proposed that would directly affect Martis Creek's 100-year

floodplain, associated wetlands or other waters of the U.S. (WOUS), and the 100-year floodplains/wetland habitat associated with several Martis Creek tributaries. Direct impacts to these waters would result from crossings associated with roads, golf cart paths, recreational trails, and utilities. Following the October 2005 Water Board Meeting at which the Water Board discussed this project, the original proposal was revised to further minimize impacts to the floodplain and waters of the U.S. Details on the proposed project components, and further information requested at the October 2005 Board Meeting, are discussed in the April 2006 Staff Report for this Resolution. The project components consist of crossings associated with the following types of activities: new roadways, golf cart paths and recreational trails inside the project site, perimeter trails within the gated project site, and trenches for the placement of utilities (additional utility trenching is linked with road-related and golf cart path/recreation trail-related crossings). The project components involve permanent and/or temporary impacts to the 100-year floodplain and/or wetlands or other WOUS. The project components include constructing seven bridges that span WOUS (either the main stem of the Martis Creek or tributaries to the Martis Creek), three culvert road crossings, five utility crossings, three perimeter (interior to project site) recreational trail crossings, six interior recreational trail crossings, three golf cart path/interior recreational trail crossings. Table 1 below summarizes the 27 proposed project components that would affect waters of the U.S. and/or the 100-year floodplain and the quantities of their respective temporary and permanent impacts to the 100-year floodplain and WOUS. The numbers that identify each crossing correspond to numbering in *Attachment Three – Detailed Alternatives Analysis of Impacts to 100-Year Floodplain*, submitted by DMB in August 2005, and subsequently revised in February 2006.

Table 1. Proposed Project Components

Crossing Type and # of crossings	Crossing No. ^a	Description	Area of Impact to WOUS (sq. ft.)		Area of Impact to 100-Year Floodplain (sq. ft.)	
			Temp	Permanent	Temp	Permanent
Roads (7)	, 10, 20, 23-26, 30	Bridges (span WOUS)	400	0	16,250	31,350
Roads (3)	17, 18, 19,	Culverts	0	512	0	1,614
Utilities (5)	9, 14b, 15, 16, 22	Trenching	2,400	0	2,000	2,648
Rec. Trails (Perimeter) (3)	1, 5, 12	Gabion basket bridge w/ footing & concrete abutments	0	0	0	1,340
Rec. Trails (Interior) (6)	3, 6a, 11, 13, 14a, 21	Gabion basket bridge w/ footing & concrete abutments	0	0	0	2,872
Golf Cart Paths/Interior Trails (3)	6, 7, 8	Gabion basket bridge w/ footing & concrete abutments	0	0	4,600	1,664
Total			2,800	512	22,850	39,874

^a Crossing Nos. correspond to *Attachment Three: Detailed Alternatives Analysis of Impacts to 100-Year Floodplain*, August 2005

4. The Water Board adopted the *Water Quality Control Plan for the Lahontan Region* (Basin Plan). The Basin Plan specifies the following discharge prohibition:

“4.(c) The discharge or threatened discharge, attributable to human activities, of solid or liquid waste materials including soil, silt, clay, sand, and other organic or earthen materials to lands within the 100-year floodplain of the Truckee River or any tributary to the Truckee River is prohibited.”

5. The Basin Plan contains provisions for the Water Board to grant an exemption to prohibition 4(c) for specific types of projects where the Water Board can make the following six findings. The Water Board has determined that:

- a. *The project type falls within one or more of the five exemption categories listed in the Basin Plan:*

- i) *“bridge abutments, approaches, or other essential transportation facilities identified in an approved county general plan”*

Project components that affect the 100-year floodplain prohibition area include bridge abutments and approaches. These are the two components of this project-type category that do not rely upon being identified in an approved county general plan. Allowing these project components within the 100-year floodplain is also consistent with past Water Board action (prohibition exemption for Finn Bridge Project, March 2005). The Water Board found this project-type category was applicable to projects, including bridge abutments and approaches, that were not identified within an approved county general plan. Based upon this information, the proposed bridge abutments and approaches satisfy this exemption criterion. The project components that are included in this project type are the roadway crossings (Nos. 10, 17 – 20, 23 – 26, and 30).

- ii) *“projects necessary to protect public health or safety or to provide essential public services”*

Project components that affect the 100-year floodplain prohibition area include an emergency access road, which is required by Placer County. The emergency access road is intended to provide safe passage for the residents and visitors in the event of an emergency evacuation. The emergency access road is also intended to provide a safe entrance and exit route for emergency response vehicles. These objectives make the emergency access road necessary for public safety.

Other project components that affect the 100-year floodplain prohibition area include trenching operations necessary to provide the Siller Ranch Development with water, sewer, power, and communications. These are essential public services. The project components that are included in this project type are the utility crossings (Nos. 9, 14b, 15, 16, and 22).

iii) *“projects necessary for public recreation”*

The Basin Plan defines “public recreation” as “...a project that can be enjoyed by an entire community or neighborhood, or a considerable number of persons.”

The Basin Plan also defines “necessary” as “...when the appropriate governmental agency finds that a project is needed to protect public health and safety, to provide essential services, or for public recreation.”

Recreation-related project components that affect the 100-year floodplain prohibition area include recreational trails that the County has determined to be necessary for public recreation. The perimeter trails are intended to provide recreational opportunities for the community of, and tourists to, Martis Valley. The project components that are included in this project type are the perimeter trail crossings (Nos. 1, 5, and 12).

The interior recreational trails would be available to the Siller Ranch Development’s residential population, estimated to be 1,700 people at build out, and their guests. The proposed golf cart path and interior recreational trails would impact 100-year floodplain areas as a result of constructing at-grade pathways, which span waters of the U.S. (WOUS). The internal trail and golf cart crossings, as proposed, do not qualify for the 100-year floodplain prohibition exemption due to the lack of determination from the County as to their necessity, thus not qualifying for the project type, “projects *necessary* for public recreation.” Also, the proposed golf cart crossings do not meet the project type, “projects necessary for *public* recreation.” Use of the golf cart crossings is limited to residents of the Siller Ranch subdivision owning family golf memberships and their guests, and therefore, does not meet the Basin Plan definition for “public recreation,” meaning a “project which can be enjoyed by an entire community or neighborhood, or a considerable number of persons.” Therefore, the interior recreation trails and the golf cart paths must span or otherwise avoid the floodplain.

b. *There is no reasonable alternative to locating the project or portions of the project within the 100-year floodplain.*

The Project site spans an area that is bisected by Martis Creek and various wetlands. Several Martis Creek tributaries and associated wetlands are located throughout the Project site. Numerous project alternatives, project component designs, and construction techniques have been evaluated in an attempt to avoid impacts, and then to minimize and mitigate unavoidable impacts to Water Board prohibition areas. Through a lengthy project review process that started with California Environmental Quality Act (CEQA) review and continued through subsequent Water Board project review, the Project’s impacts to Water Board prohibition areas have been reduced from the original proposal of approximately 3.5 acres of which 1.0 acre (permanent and temporary impacts) is waters of the United States, to the current proposal of approximately 1.4 acres of which 0.08 acre (3,312 square feet of permanent and temporary impacts) is waters of the United States. The Water Board has considered the following factors during the CEQA review

and Water Board permitting processes.

Project Alternatives Analysis - The Environmental Impact Report (EIR) for the Siller Ranch Development compares the Project to eight project alternatives, including the No Project Alternative. The alternatives include designs with significantly increased residential densities (e.g. 924 clustered units; 1,040 clustered units; 1,440 clustered units, 1,738 units), and significantly reduced residential densities (e.g. 0 units; 255 units; 478 units). The alternatives also include designs with varying recreational facilities. The Water Board used the EIR's alternatives analysis to initially identify options for eliminating some or all of the Project's facilities with direct impacts to the Water Board's prohibition areas (e.g. eliminate road crossings, utility crossings).

The EIR's No Project Alternative and Alternative 5 (255 units limited to the northwest portion of the property) eliminate impacts to waters of the United States and riparian areas. However, the No Project Alternative does not meet any project objectives and is deemed unreasonable for this reason. Alternative 5 is also unreasonable based upon it being economically infeasible. The remaining project alternatives (Alternatives 1-4, 6-7) have the same impacts to Water Board prohibition areas, including waters of the United States, as the Project does, mostly due to impacts associated with the road system that is necessary to access developable property and to provide emergency access routes. Based on a review of the EIR's alternative analysis, subsequent Water Board project review, and a Settlement Agreement with opponents of the Project that filed a lawsuit, DMB has reduced the development to that stated on page one of this Resolution . The Project alternative minimizes the number of road and utility crossings to those specified in Table 1 of this Resolution while still complying with Placer County and California Department of Forestry and Fire Protection emergency access requirements.

The Water Board staff has also reviewed the Project's proposed trail system in an effort to eliminate or reduce impacts to prohibition areas. Two factors impede any further elimination or reduction in floodplain impacts associated with recreation trail crossings. Placer County's policy requires that gated subdivisions incorporate into the development Project an interconnected community trail system with links to the Truckee area, Northstar area, and public lands (U.S. Army Corps of Engineers, U.S. Forest Service) near the Project site. Placer County has implemented this policy by including a condition of approval of the Vested Tentative Subdivision Map requiring DMB to construct an interconnecting trail around the perimeter of the Project site. This condition results in three of the recreational trail crossings referred to above as perimeter trails. These perimeter trails are "necessary for public recreation" as they have been determined to be necessary by Placer County and therefore meet the exemption criterion for the project type. As previously stated, the golf cart paths and internal trail system do not meet the exemption criteria.

Project Component Design and Construction Technique Analysis - DMB has further evaluated each Project component impacting a prohibition area for alternative routes, alignments, designs, and construction techniques that would either eliminate or further minimize each component's proposed impacts within prohibition areas. Alternative

designs that eliminate and further minimize Project component impacts to prohibition areas have been deemed unreasonable either because alternative project component designs and/or locations fail to comply with other agency (e.g. Placer County, California Department of Forestry and Fire Protection) regulations or utility industry standards, or substantially higher costs would be associated with implementing the alternative designs. Also, Project component designs currently proposed effectively mitigate actual and potential impacts (both permanent and temporary) to hydrology and water quality at or within close proximity to the Project component locations.

Based upon the information above and a thorough review of project plans, agency requirements (e.g., Placer County, California Department of Forestry and Fire Protection), alternative road and utility routes, and alternative project layouts, there is no reasonable alternative to locating the project components within the 100-year floodplain.

- c. *The project, by its very nature, must be located within the 100-year floodplain.*

By their very nature, roads, trails, and utilities traverse large areas of the landscape, following an alignment chosen to connect different locations. The proposed facilities affecting 100-year floodplain/wetland areas are of this nature. Project components of this nature that are part of large-scale projects within the Truckee River watershed will eventually intercept surface waters, given the abundance of surface waters within the watershed. The Siller Ranch Development is a large-scale project with multiple surface waters located on the project site. To provide access, essential services, and necessary public recreation, the above-referenced features cannot reasonably avoid intercepting surface waters and associated floodplains. Therefore, such features by their very nature interact with 100-year floodplains and/or wetland areas at certain areas where crossings are desired.

- d. *The project incorporates measures, which will ensure that any erosion and surface runoff problems caused by the project are mitigated to levels of insignificance.*

DMB has developed a Storm Water Pollution Prevention Plan (SWPPP), the Siller Ranch Best Management Practices for Water Quality Management Report (BMP Report), and the Siller Ranch Water Quality Monitoring Plan (Site-Specific Monitoring Plan). These plans and reports identify numerous design elements, types of BMPs, Project operations and management measures, and monitoring practices, which will be implemented prior to (monitoring), during, and following project construction. Implementation of these plans is intended to prevent erosion and surface runoff problems that could be caused by Project construction and operation.

The SWPPP identifies potential storm water and non-storm water pollutants associated with project construction and site re-stabilization, and the BMPs necessary to prevent discharges of such pollutants. The SWPPP also specifies timely and routine BMP inspections, maintenance, and when necessary, corrective actions to ensure that the BMPs adequately protect water quality. Water quality monitoring is also a SWPPP element, and will be used in conjunction with the routine inspections to evaluate BMP effectiveness,

and to identify any necessary BMP modifications. Effective SWPPP implementation, including modification as necessary, will ensure that erosion and surface runoff problems caused by the Project during and immediately following construction are mitigated to levels of insignificance.

The BMP Report also includes temporary construction BMPs, such as stream isolation and site dewatering plans, to ensure that construction activities in very close proximity to surface waters do not adversely affect surface waters or their associated 100-year floodplain/wetland areas. The BMP Report identifies permanent BMPs necessary to prevent erosion and surface runoff problems from the time they are constructed. The BMP Report is based upon a combination of source control (e.g. soil stabilization with vegetation, rock-slope-protection) and treatment BMP systems. Treatment BMP systems collect storm water runoff and snow melt from areas that can contribute pollutants and have the runoff flow through a series of BMP facilities (e.g., drop inlets with filtration, rock-lined and vegetated swales, settling and infiltration basins, runoff spreading areas, and treatment wetlands), rather than relying upon a single BMP facility for a specific area. This approach allows the runoff to be treated with multiple techniques, and provides multiple opportunities to infiltrate runoff across the Project site. Conveying the runoff through a stabilized system, in addition to stabilizing areas of disturbed soil, prevents erosion. Infiltrating a significant portion of the runoff from all constructed impervious surfaces will maintain the area's pre-project hydrology, thereby preventing increasing runoff volumes and peak flows, which can increase creek channel erosion. Effectively implementing the measures identified in the BMP Report, and modifying them if necessary, will ensure that erosion and surface runoff problems caused by the Project following construction are mitigated to levels of insignificance.

The Site-Specific Monitoring Plan includes 1) monitoring to evaluate compliance with the water quality objectives for Martis Creek specified in the Basin Plan as well as effectively prevent water quality degradation and beneficial use impairment, and 2) adaptive monitoring to identify and take appropriate responsive action to any water quality problems that may develop. The Site-Specific Monitoring Plan identifies sampling stations and constituents for (1) Martis Creek; (2) intermittent and ephemeral tributaries; (3) selected BMPs and lake overflow locations; (4) golf course sumps, which receive subsurface drainage; and (5) ground water. In addition to identifying water quality problems, Site-Specific Monitoring Plan results will assist in identifying any necessary corrective BMP measures.

The facilities and operational measures identified in the SWPPP and the BMP Report will effectively prevent waste discharges to surface and ground waters that could result from construction activities (SWPPP), and from permanent facilities such as parking lots, roads, recreational facilities, and residences (BMP Report). These plans identify temporary and permanent BMPs, in addition to Project management measures, that will effectively protect water quality and beneficial uses. Results from the Site-Specific Monitoring Plan will effectively evaluate BMP effectiveness, identify any positive or negative effects upon water quality, and allow quick responses to any water quality problems that may develop.

When implemented, the three above-referenced plans, the SWPPP, the BMP Report, and the Site-Specific Monitoring Plan, will effectively prevent erosion and surface runoff problems for the Project and ensure that erosion and surface runoff problems are mitigated to levels of insignificance. A Monitoring and Reporting Program (MRP) has been developed that incorporates the monitoring described above. The MRP will be required as a condition in the Water Quality Certification Order, and as a condition for any 100-year floodplain exemptions granted.

- e. *The project will not individually or cumulatively with other projects, directly or indirectly, degrade water quality or impair beneficial uses of water.*

The SWPPP, BMP Report, and Site-Specific Monitoring Plan have been designed to effectively prevent water quality degradation and beneficial use impairment. This exemption criterion is not completely satisfied, however, unless a monitoring program is in place to verify that cumulative impacts are mitigated to a less-than-significant level. The “comprehensive water quality monitoring program to address cumulative impacts,” which is referenced in Placer County’s *Martis Valley Community Plan (MVCP)* and required in the Siller Ranch Environmental Impact Report (EIR) as a mitigation monitoring measure to ensure cumulative impacts from this Project are mitigated to levels that are less than significant, has not been developed or implemented. Without this type of comprehensive monitoring program, Water Board staff do not have the means to verify cumulative impacts will not occur. Some baseline data has been obtained from the watershed. This baseline data has been compiled and will be evaluated for use in the comprehensive monitoring program to support a conclusion that “no cumulative impacts” will occur from the Project. In addition to the baseline data already collected, the MRP, which will be required as a condition in the Water Quality Certification Order and this Resolution, will incorporate cumulative effects monitoring requirements that will provide additional baseline data.

The secondary basis for needing baseline monitoring data is preliminary data from West Martis Creek, a tributary in the subdrainage adjacent to Siller Ranch, that indicates water quality and biological integrity are impaired relative to reference conditions in that subdrainage. In order to demonstrate that this “project will not individually or cumulatively with other projects, directly or indirectly, degrade water quality or impair beneficial uses of water,” a comprehensive water quality monitoring program and a baseline monitoring dataset must be established prior to any land disturbance, dredging, or fill discharges within the 100-year floodplain areas described in this resolution. The monitoring and reporting requirements in the MRP, included as a condition in this Resolution, will ensure these requirements are met. (See further discussion regarding the lack of a comprehensive water quality monitoring program under Finding 6.g.)

- f. *All 100-year floodplain areas and volumes lost as a result of the project will be completely mitigated by restoration of a previously disturbed floodplain area within the project site, or if there is no previously disturbed floodplain area within the project site, creation of a new 100-year floodplain or enlargement of an existing 100-year floodplain within or as close as practical to the project site.*

DMB has developed a 100-year floodplain/wetland mitigation plan that is intended to offset the loss of flood flow attenuation, surface flow treatment capacity, ground water treatment capacity, and wetland functions that will occur as a result of the permanent and temporary 100-year floodplain/wetland impacts. The mitigation plan involves restoring/creating and enhancing a minimum of 0.05 acre of wetland habitat immediately adjacent to Martis Creek, north of "M-Road", and near Hole No. 12 on the golf course. This will compensate for the permanent and temporal loss of wetland habitat and functions. The wetland mitigation site is located within the upper elevations of the Martis Creek 100-year floodplain. The site historically supported wetland habitat that was destroyed in part by grading, filling, and hydromodification activities associated with past timber harvest-related activities. Fill material will be removed from the mitigation site to restore wetland hydrological conditions. Wetland soils currently exist below the fill material. Placing wetland sod, harvested from permanently affected wetland sites, will allow wetland vegetation to quickly establish itself. The mitigation site will also be seeded with wetland species. The wetland mitigation site will also create a minimum of 62,000 cubic feet of floodplain volume that will compensate for the loss of flood flow attenuation capacity. No additional compensatory mitigation is required for activities associated with the 100-year floodplain/wetland mitigation plan, since the plan enhances the existing floodplain's flood flow attenuation capacity, surface flow treatment capacity, and ground water treatment capacity.

The mitigation plan also includes an element that creates a minimum of 44,500 square feet of 100-year floodplain area to compensate for the loss of surface flow and ground water treatment capacity associated with the permanent 100-year floodplain losses. This floodplain area mitigation will be created by sizing storm water treatment/disposal facilities in a manner that intercepts and infiltrates runoff above Martis Creek and some of its tributaries.

Additionally, all 100-year floodplains and wetlands temporarily affected during construction will be restored to pre-project conditions. For wetland habitat sites, the existing wetland vegetation and soil (wetland sod) will be harvested and stockpiled until the affected site is ready for restoration. The wetland sod will then be placed at the original elevation. Other methods, such as installing trench breakers, will be used to maintain pre-project hydrology. Upland floodplain areas that are temporarily affected will also be restored by re-establishing pre-project topography, and by using a combination of preserving and replanting existing vegetation, seeding, and supplemental plantings, to quickly re-establish pre-project vegetation conditions.

6. California Environmental Quality Act (CEQA) Compliance – The Placer County Board of Supervisors approved an EIR for the Siller Ranch Project on January 18, 2005 in accordance

with the provisions of the California Environmental Quality Act (Public Resources Code section 21000 et seq.). The Board of Supervisor's action was subsequently challenged by a lawsuit that was settled March 24, 2006.

The Water Board is a CEQA Responsible Agency in this matter and has considered, pursuant to CEQA Guidelines Section 15096(g), the EIR prepared for the Project and approved by the Placer County Board of Supervisors. The following significant and potentially significant water quality impacts were identified in the Siller Ranch EIR:

- a. **Potentially significant impact** – Development of the Project, including roadways and golf course features, would require the conversion of timberland. The site is not designated as a Timber Production Zone.

Watercourse crossings, road building, and the operation of heavy equipment associated with timber harvest activities on certain soils can discharge sediment into surface waters and violate Basin Plan water quality objectives and Basin Plan prohibitions.

Water Board finding – The EIR deferred development of the mitigation measures which can reduce potential impacts associated with timber harvest activities to less than significant to the California Department of Forestry and Fire Protection (CDF)-required Timber Harvest Plans (THPs) development and review process. The Z'berg-Nejedly Forest Practices Act and the Board of Forestry developed Forest Practice Rules (FPRs) establishing a “multi-disciplinary” review team process that provides CDF, Water Board, California Department of Fish and Game, and California Geological Survey staff the opportunity to review all submitted THPs within their respective fields of expertise.

During the THP review process for the Project, Water Board staff ensured that THPs 2-02-005-PLA(3) and 2-04EX-043-3-PLA identified adequate mitigation measures to reduce the potential significant water quality impacts to a less than significant level. These mitigation measures included, but are not limited to, adequate protection buffers for stream zones, riparian areas, and wetlands, properly sized and protected watercourse crossings, and adherence to specified slope stability and soil compaction factors.

In addition to the FPR-established process, the Water Board is authorized by CEQA and the California Porter-Cologne Water Quality Act (California Water Code Sections 1300 et seq.) to require water quality protection measures. The Water Board's Timber Waiver Policy waives the requirements to submit a report of waste discharge and obtain waste discharge requirements for timber harvest activities that meet specified eligibility criteria and conditions. In accordance with this Timber Waiver Policy, DMB is required to submit a waiver application, which either confirms that Water Board staff actively participated in the review process, or identifies specific, adequate mitigation measures beyond those measures required by CDF FPRs. The Timber Waiver application also grants Water Board staff access to inspect the project activities to evaluate implementation and maintenance of the revegetation plan and any protective THP or waiver elements. Based on these field observations, Water Board staff may

require specific changes in the plans as necessary to incorporate additional BMPs or alternative revegetation/ soil stabilization techniques to ensure that the implemented plans will effectively protect water quality. The above-referenced actions will reduce the identified potentially significant impact to a less than significant level.

- b. **Significant impact** – Construction activities such as logging, excavation and grading operations, construction vehicle traffic, and wind blowing over exposed earth generate exhaust emissions and fugitive particulate matter emissions. These emissions would affect local and regional air quality in the summer months during the build-out period of the Project.

BMPs improperly implemented to control fugitive dust may also lead to excessive sediment runoff and deposition into surface waters, in violation of Basin Plan water quality objectives and Basin Plan prohibitions. The addition of palliatives (i.e., any material such as calcium chloride, magnesium chloride, lignin sulfate, asphalt binder, sugar beet extract, or electrochemical, polymer, or clay additive products used to control dust particles) during wet sweeping may introduce chemicals into nearby stream zones. Excessive watering of disturbed soil areas for dust control could create runoff and sediment transport.

Water Board finding – The SWPPP acknowledges that dust control measures, such as using water, temporary covers, and potentially palliatives will be necessary to control fugitive dust for the Project. The SWPPP includes some guidance intended to prevent sediment and palliative discharges to surface waters that could occur from excessive watering and inappropriate use of palliatives. However, Water Board will, through the General Permit or an individual construction permit, require additional detailed protective measures be included in the SWPPP.

Water Board staff will perform periodic site inspections and take enforcement actions where necessary to ensure that the above actions are performed adequately. These actions and procedures shall reduce this significant impact to a less than significant impact.

- c. **Potentially significant impact** – Surface water runoff from the Project would increase existing drainage rates thereby enhancing the potential for flood conditions.

Water Board finding – DMB has submitted a SWPPP and BMP Report identifying methods for collecting, treating, and disposing of storm water runoff from the Project. Implementation of the methods and facilities identified in the SWPPP and BMP Report will infiltrate and store increased storm water runoff, maintain existing 100-year floodplain elevations at or below their current levels, and reduce the identified potentially significant impact to a level of insignificance.

The SWPPP and BMP Report, in part, include the following:

- A written text addressing existing conditions, the effects of project improvements, all appropriate calculations, a watershed map, downstream flows, proposed on- and off-site improvements and detention facilities, features to protect downstream uses and property, and drainage easements to accommodate downstream flows from this project.
- Information demonstrating that the project design will result in drainage flow conditions at or below pre-project flow rates.
- Mapped limits of the 100-year floodplain and building setbacks.

Through the General Permit (or an individual construction permit) and the Section 401 Water Quality Certification, the Water Board requires implementation of the SWPPP and the BMP Report, respectively.

- d. **Significant impact** – Slope and soil disturbance associated with construction activities for the Project could cause accelerated soil erosion and sedimentation or the release of other pollutants to adjacent waterways and wetlands.

The site will be subject to new construction and grading, including new buildings, residences, golf courses, ski hill improvements, trails, utility placement, and roadway construction. Excavations and embankments will be necessary to construct the building pads, transportation improvements, and utilities associated with project development. Construction activities could lead to temporary impacts on surface water quality in Martis Creek and the Truckee River due to the increase in sediments, the release of other pollutants, and/or increased soil erosion.

Water Board finding – DMB has prepared a SWPPP as required by the General Permit. The SWPPP describes site-specific erosion and sediment controls, means of waste disposal, post-construction sediment and erosion control measures, maintenance responsibilities, and non-storm water management controls. Water quality control features are also identified in the BMP Report. Water Board staff will enforce the implementation, maintenance, and monitoring/reporting requirements specified by these documents through the General Permit (or an individual construction permit) and the Section 401 Water Quality Certification. Implementation and maintenance of the various measures and facilities identified in these documents will reduce the identified significant impact to a level of insignificance.

- e. **Significant impact** – Project's operation could result in an increase in urban contaminants in surface runoff, which could adversely affect the water quality of Martis Creek, Martis Creek tributaries, Martis Creek Reservoir, or the Truckee River.

The Project will create 653 residential units, golf courses, ski runs, and recreational and community facilities. Contaminants in runoff from streets could consist of motor vehicle fluids such as oil and radiator coolant. Also typically found in urban runoff are trace metals such as copper, lead, zinc, cadmium, chromium, arsenic and nickel.

Landscaping and recreational areas (e.g., golf courses, parks and multipurpose fields) may contribute fertilizers and pesticides. Other potential contaminants may include nutrients, organic compounds, and sediments. Pollutants bound to sediments are released during the first large rainfall event of the season. These pollutants could have detrimental effects on aquatic life in Martis Creek and its tributaries, Martis Creek Reservoir, and the Truckee River. Additionally, the increase in impervious surfaces will require snow removal services above current levels. Snow removal within the project area may require a combination of snowplows, snow storage areas, de-icers (such as sand, salt, and/or magnesium chlorides), and filtering devices. The Truckee River is a listed waterway on the Clean Water Act Section 303(d) list due to sediment and on the Water Board's "Watch List" for chloride and TDS. Martis Creek is on the Water Board's "Watch List" for nutrients.

Water Board finding – DMB has submitted a BMP Report, which describes control of storm water runoff from the Project site, both during and after construction activities. The plan also addresses pollutant source control prior to treatment in an effort to maximize the treatment system's performance, such as proper handling and storage of hazardous materials or limiting the use of sand or salt on roads near watercourses. A variety of BMPs will be used in series to ensure that site runoff is sufficiently slowed to allow collection, infiltration, and/or treatment before pollutants reach surface waters. Permanent BMPs include runoff control practices, erosion control devices, sediment control methods, water treatment methods, drainage protection, snow storage methods, general Project site and material management, and management methods for winter sport facilities and trail development. The SWPPP requires the construction contractor and DMB to be responsible for the required monitoring, maintenance, and repair of the Project site BMPs during and after construction, respectively. The Water Board will enforce the SWPPP through the General Permit or an individual construction permit, whichever is applicable. Water Board staff has reviewed the plan and determined that proper implementation of the plan and maintenance of the facilities will reduce the identified potentially significant impact to a level of insignificance.

- f. **Potentially significant impact** – The golf courses could directly affect the existing quality of surface waters and groundwater in the project area.

Runoff from the golf courses could contain nutrients and chemicals as a result of golf course operation. Fertilizer use could increase the nutrient loading in surface waters, encouraging algal blooms and disturbing the nutrient cycling process, which could have detrimental effects on aquatic life in Martis Creek and Martis Creek Reservoir. Also, fertilizers and pesticides could percolate through the soil and contaminate local ground water.

Water Board finding – The Discharger has developed a Chemical Application Management Plan (CHAMP) for the Siller Ranch golf course facilities. The CHAMP identifies golf course operational/management measures and chemical application principles intended to prevent the discharge of nutrients and chemicals to surface and ground waters. Specifically, the CHAMP addresses fertilizer/chemical application

practices and irrigation practices. The guiding principles emphasize healthy soil and turf development, so that pesticide use is minimized, and potentially eliminated. Fertilizer/chemical application and management principles emphasize timing, application rates, and weather conditions, so that the fertilizers and chemicals do not move beyond the intended receptor (e.g., root zone, turf surface). Irrigation will also be closely monitored using a state-of-the-art weather/moisture monitoring system that when used properly, will prevent excessive irrigation that could cause surface runoff or water to move below the root zone. Surface runoff and infiltration are the primary mechanisms for pollutants migrating from the golf course environment into surface and ground waters. The golf course will be closely monitored, including runoff discharging from treatment BMP systems, sump water collected from beneath greens, and “shallow” ground water. The results from the monitoring program will allow personnel to quickly identify the need for any adaptive management measures to implement them. The CHAMP requires:

- Proper golf course design and construction that directs surface flows, which may contain nutrients or chemicals, into treatment areas to filter out the nutrients and chemicals.
- Constructed water bodies to be built and operated so as not to cause a violation of the water quality objectives for Martis Creek, as established in the Basin Plan. All greens and water features will be lined and operated as closed, recirculating systems. Constructed lakes and ponds will be lined with a 30-millimeter PVC liner or functional equivalent and protected as necessary with a sediment cap.
- Lakes and ponds are to be operated as closed recirculating systems through the installation of a pump that delivers water to the golf course irrigation system from the water body. Supplemental water will be provided through ground water pumped from an irrigation well on the site to manage lake water levels. There will be no connection between the irrigation water supply and the domestic water supply. The water level in the lakes and ponds will be lowered as necessary during the seasonal closing of the golf course, so as to provide rain and snowmelt runoff attenuation during the winter and spring months.
- When the lakes and ponds are lowered, the discharged water will be used to irrigate the golf course greens in such a manner and time so that no runoff will occur or leave the turf areas. Irrigation will occur on a normal schedule; “lowering” will be accomplished by not refilling the ponds and lakes with pumped groundwater.
- Prevention of over-application of chemicals, pesticides, herbicides, fungicides, insecticides, rodenticides, and fertilizers through specified management controls.
- Proper storage, handling, and inventory of all chemicals used on site. The CHAMP includes specific requirements for chemical handling, storage, and inventory, as well as details for chemical spill response.

- Prevention of any chemical or nutrient application at a time when a reasonable possibility exists that the chemical or nutrient will be washed away by a sudden rain event.
- Irrigation to be precisely controlled and limited to the amount necessary to sustain golf course vegetation and prevent run-off of irrigation water.
- Discharges, if any, from constructed water bodies for the Siller Ranch Project to meet the water quality objectives for Martis Creek, including the Non-Degradation Objective.
- The Site-Specific Monitoring Plan (Addendum 3 of the CHAMP, Volume 1, Appendix 4) will be implemented through the MRP, and includes sampling at 44 sites for compliance and adaptive monitoring purposes. The sampling plans are compiled in the MRP and will be required as a condition in the Section 401 Water Quality Certification Order and in this Resolution. Surface water quality testing is required for:
 - ❖ Constituents with established Basin Plan water quality objectives, and other water quality constituents such as nutrients (e.g., total nitrogen, total phosphorus, and ortho-phosphorus, including dissolved forms).
 - ❖ Applied chemicals, specifically the active agent from any applied pesticide, herbicide, fungicide, insecticide, or rodenticide used at the golf course. Applied chemical sampling will depend on the date of application relative to the storm date and the half-life of the active agent.
- Dry sump sampling will monitor constituents, which could potentially migrate to the ground water table. The Site-Specific Monitoring Plan provides additional guidance regarding each of these sampling and reporting procedures. The Site-Specific Monitoring Plan also requires additional quarterly ground water well sampling in the vicinity of the golf course greens and fairways.

The Site-Specific Monitoring Plan, which provides detailed requirements to the CHAMP's recommendations, specifies that water quality monitoring will be carried out under the direction of a scientist or engineer with expertise in forest hydrology and biogeochemistry. The Site-Specific Monitoring Plan indicates that annual reports will be provided to Placer County Department of Environmental Health and the Water Board. Reporting requirements are detailed in the MRP, which will be required as a condition of the Water Quality Certification Order and in this Resolution. The Site-Specific Monitoring Plan also states that the sampling program has been designed to allow for the identification of water quality problems and requires that any violations of the Basin Plan standards be reported within 72 hours of sample analysis. Possible corrective actions must also be identified at that time. The Site-Specific Monitoring Plan outlines specific investigative and corrective measures to take in response to a violation of Basin Plan criteria or an increase in concentration over background levels

attributed to golf course operations.

Pursuant to its authorities under the Porter-Cologne Water Quality Control Act the Water Board can require monitoring reports. Placer County Department of Environmental Health has the responsibility to enforce the CHAMP. Successfully implementing the above-referenced CHAMP elements, in conjunction with the Site-Specific Monitoring Plan requirements, will reduce this potentially significant impact to a level of insignificance.

- g. **Cumulative significant impact** – The Project, in combination with other planned and proposed development in the Martis Valley area, could impact surface and ground water quality from construction and operation activities.

Slope and soil disturbance associated with construction-related activities from the Project and other planned projects in the Martis Valley could contribute to water quality impacts that are cumulatively significant. Developments permitted under the existing Martis Valley Community Plan Land Use Map would result in a maximum disturbance of approximately 4,800 acres of the Martis Valley with urban levels of development. This disturbance would add to other potential development activities in the region, depending on the timing and rate of development.

Direct surface water quality impacts could occur from the following general land use activities in the Martis Valley:

- Residential: Maintenance of yards associated with the use of fertilizers, herbicides and pesticides, motor vehicle operation and maintenance, and animal waste.
- Commercial: Maintenance of landscape areas associated with the use of fertilizers, herbicides and pesticides, and motor vehicle operation and maintenance.
- Recreation: Maintenance of golf courses associated with the use of fertilizers, herbicides and pesticides (currently there are two existing golf courses in the area and three proposed in the Martis Valley). Hiking, mountain biking, off-road vehicle use on unpaved roads and trails and ski terrain maintenance resulting in sedimentation of waterways.
- Roadway Maintenance: Snow removal activities (e.g., application of sand to roadways).

Runoff typically contains oils, grease, fuel, antifreeze, byproducts of combustion (such as lead, cadmium, nickel, and other metals), nutrients, sediment and other pollutants. Additionally, animal waste from pets (e.g., dogs and cats) could lead to fecal contamination of water sources.

Water Board finding – DMB has developed a SWPPP, CHAMP, BMP Report, and Site-Specific Monitoring Plan to prevent individual and cumulative Project effects upon

water quality. If effectively implemented, these plans could prevent cumulative adverse water quality impacts to surface and ground water resources. The Site-Specific Monitoring Plan is in part intended to assist DMB, and/or the Siller Ranch Homeowners' Association and Golf Club, in detecting any actual or potential adverse water quality impacts that may occur, so that these parties may respond to the situation and implement the appropriate corrective actions. The results generated by implementing the Site-Specific Monitoring Plan may also be useful in evaluating cumulative impacts that may occur in the Martis Creek watershed upstream of the Siller Ranch Project boundaries.

Developing and implementing the above plans should prevent potentially significant cumulative adverse water quality impacts to surface and ground water resources. However, a means to verify that these plans are effective in preventing potentially significant or significant cumulative impacts has not been established. Furthermore, the means to verify the effectiveness of the plans were proposed as a mitigation monitoring measure in the Siller Ranch EIR, which requires participation in a "comprehensive monitoring program" as proposed in Placer County's *Martis Valley Community Plan* (MVCP). Mitigation Measure (MM) 4.7.2.b of the Siller Ranch EIR states, "... The project will also participate in the Martis Valley Community Plan comprehensive water quality monitoring program and any subsequent requirement associated with this program (Martis Valley Community Plan Natural Resources Implementation Program 18). Results of water quality sampling shall be provided in a report submitted to the Lahontan Regional Water Quality Control Board (RWQCB) to verify compliance with this measure." The timing and implementation of the above mitigation measure was as follows: "Prior to approval of Improvement Plans and implemented through the Golf Course CHAMP."

The MVCP Natural Resources Implementation Program 18 states, "The County shall work with the Lahontan WQCB [Water Quality Control Board], the ACOE [Army Corps of Engineers], TTSA [Tahoe-Truckee Sanitation District], and private landowners to initiate a comprehensive water quality monitoring program to address the cumulative impacts on water quality in Martis Lake and the creeks which drain into it. The program shall strive to coordinate existing water quality monitoring efforts underway presently and modify those as necessary to create a comprehensive program." The time frame stated in the MVCP for this to occur is "2004 and on-going." As stated in the April 2006 Staff Report, no such monitoring program has been developed or implemented. Without a monitoring program and baseline monitoring data, there is no basis to conclude that cumulative impacts will be mitigated to a less-than-significant level. The plans (SWPPP, CHAMP, BMP Report, and Site-Specific Monitoring Plan) are expected to mitigate potentially significant impacts to a less-than-significant level, but a verification mechanism is necessary to make a conclusive determination concerning the effects of the Siller Ranch project in conjunction with other projects in the watershed.

A lawsuit challenging the adequacy of the MVCP has been filed against the Placer County Board of Supervisors that has not been finally adjudged in a legal proceeding.

California Code of Regulations, title 14, section 15233 states that if a lawsuit is filed challenging an EIR for noncompliance with CEQA, Responsible Agencies shall act as if the EIR complies with CEQA. California Code of Regulations, title 14, section 15231 states that a final EIR prepared by a Lead Agency shall be conclusively presumed to comply with CEQA for purposes of use by Responsible Agencies unless the EIR is finally adjudged in a legal proceeding not to comply with the requirements of CEQA.

Pursuant to Section 15097 of CEQA Guidelines, “[i]n order to ensure that the mitigation measures and project revisions identified in the EIR or negative declaration are implemented, the public agency shall adopt a program for monitoring or reporting on the revisions which it has required in the project and the measures it has imposed to mitigate or avoid significant environmental effects. A public agency may delegate reporting or monitoring responsibilities to another public agency or to a private entity which accepts the delegation; however, until mitigation measures have been completed the lead agency remains responsible for ensuring that implementation of the mitigation measures occurs in accordance with the program.” Insofar as Placer County has delegated responsibility for developing the program for cumulative effects monitoring and reporting, the Water Board accepts this delegation on a limited-term basis until a Placer County-coordinated program, as described in the MVCP, is developed and implemented by Placer County. Therefore, to address the lack of a County-coordinated cumulative effects mitigation-monitoring program (from which to conclude cumulative-impact mitigation and monitoring measures are effective), this Resolution imposes a condition that requires DMB to implement a comprehensive cumulative impacts mitigation-monitoring and reporting program prior to initiating construction within 100-year floodplain prohibition areas, as identified in Table 1 of this Resolution. Such a program has been developed and is included in the MRP. The program incorporates information to establish baseline water quality conditions and establishes a monitoring program that will confirm that cumulative significant impacts do not occur, in accordance with the Siller Ranch EIR, or to detect cumulative impacts should they occur so that additional mitigation measures described in the Siller Ranch EIR will be implemented.

- h. **Potentially significant impact** – Implementation of the Project as proposed involves crossing jurisdictional waters of the United States including wetlands.

Mitigation finding – Any wetlands, which will be lost or disturbed will be replaced or restored on a “no net loss” basis in accordance with the U.S. Army Corps of Engineer’s mitigation guidelines and Water Board requirements. In order to qualify for a Section 401 Water Quality Certification, DMB has developed a wetland mitigation plan that restores approximately 0.05 acres of historical wetland habitat that was destroyed during timber harvest activities unrelated to the Project. The restored wetland area will be located at a single site immediately adjacent to Martis Creek within the Project boundaries. The wetland mitigation plan provides enough wetland area to meet the Water Board’s minimum wetland mitigation ratio of 1.5:1 for permanent and temporary wetland impacts. All temporarily affected wetland areas will also be fully restored.

Implementation of the wetland mitigation plan and restoration activities for temporarily affected wetland habitat will reduce this potentially significant impact to a level of insignificance.

- i. **Potentially significant impact** – Implementation of the Project may result in the loss or disturbance of riparian habitat along Martis Creek and its associated tributaries.

Mitigation finding – For each phase of the Project, for those areas where road, trail, and utility crossings are planned, DMB will identify the extent of riparian habitat along Martis Creek and its tributaries. The final design and alignment of the roads, trails, bridges, infrastructure, and lots in the vicinity of Martis Creek and its tributaries will avoid riparian habitat to the maximum extent practical.

DMB has developed a Riparian Habitat Restoration Plan, which includes details for restoration of impacted riparian habitat, where avoidance is not achievable. The plan identifies an on-site location for replacement shrubs and trees to achieve riparian habitat value at a minimum of no net loss; protection measures for replacement shrubs and trees that will ensure that 75 percent of replacement plantings be alive and vigorous five years following site revegetation; and monitoring measures including construction monitoring to ensure disturbance is minimized and replacement monitoring for a minimum of five years by a qualified professional. Implementation of the plan will reduce the potentially significant impact to a level of insignificance.

- j. The EIR identifies other potentially significant impacts and significant impacts that are not related to water quality. The Water Board is not responsible for implementing the mitigation measures identified in the EIR or additional mitigation measures other parties have deemed necessary for impacts unrelated to water quality.
- k. Granting an exemption to waste discharge prohibitions is a discretionary action of the Water Board and thus subject to CEQA compliance. When an EIR has been prepared for a project, a Responsible Agency shall not approve the project as proposed, pursuant to CEQA Guidelines, Section 15096(g)(2), if the agency finds any feasible alternative or feasible mitigation measures within its powers that would substantially lessen or avoid any significant effect the project would have on the environment. Section 15097(a) indicates, “[i]n order to ensure that the mitigation measures and project revisions identified in the EIR or negative declaration are implemented, the public agency shall adopt a program for monitoring or reporting...” Section 15097(c) provides that, “[t]he public agency may choose whether its program will monitor mitigation, report on mitigation, or both.” The Water Board, acting as a CEQA Responsible Agency, has evaluated the Siller Ranch Final EIR for potentially significant impacts to water quality. As a result of this evaluation, the Water Board is requiring the MRP as a feasible alternative to monitor for cumulative impacts identified in the Final EIR. The MRP requires cumulative effects monitoring in the watershed necessary to monitor mitigation measures required by the Lead Agency to lessen or avoid significant effects of the project on water quality and ensure impacts are less than significant. Results of monitoring shall be reported to the Water Board, and to Placer

County. The Water Board will file a Notice of Determination with the State Clearinghouse pursuant to California Code of Regulations, Chapter 3, Article 7, Section 15096.

7. Explanation and Basis for Requiring Monitoring Reports – The Water Board may require dischargers to produce monitoring program reports pursuant to California Water Code section 13267 (a) and (b)(1), which states:

“(a) A regional board, in establishing or reviewing any water quality control plan or waste discharge requirement, or in connection with any action relating to any plan or requirement authorized by this division, may investigate the quality of any waters of the state within its region.

(b)(1) In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge, waste outside of its region that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports.”

The monitoring and reporting requirements in the MRP are required in this Resolution pursuant to Section 13267 of the California Water Code. As stated in the findings above, the information requested is needed to ensure and verify that “the project will not individually or cumulatively with other projects, directly or indirectly, degrade water quality or impair beneficial uses of water” thereby satisfying 1) this 100-year floodplain prohibition exemption criterion, and 2) the Water Board’s requirements as a Responsible Agency under CEQA to impose feasible alternatives within its powers that would substantially lessen or avoid any significant effect the project would have on the environment.

8. The Water Board has notified DMB and interested agencies and persons of its intent to adopt this Resolution.
9. The Water Board, in a public meeting, heard and considered all comments and determined that the Project satisfies the exemption criteria stated above.

THEREFORE, BE IT RESOLVED THAT:

1. The criteria established for exemptions to the Basin Plan prohibitions stated in Finding No. 5 above are satisfied for the project components in Table 2 below for the Siller Ranch Development Project.

Table 2. Project Components Granted Exemption from the Floodplain Prohibition

Crossing Type and # of crossings	Crossing No. ^a	Description	Area of Impact to WOUS (sq. ft.)		Area of Impact to 100-Year Floodplain (sq. ft.)	
			Temp	Permanent	Temp	Permanent
Roads (7)	10, 20, 23-26, 30	Bridges (span WOUS)	400	0	16,250	31,350
Roads (3)	17, 18, 19	Culverts	0	512	0	0
Utilities (5)	9, 14b, 15, 16, 22	Trenching	2,400	0	2,000	2,648
Rec. Trails (Perimeter) (3)	1, 5, 12	Gabion basket bridge w/ footing & concrete abutments	0	0	0	1,340
Total			2,800	512	18,250	35,338

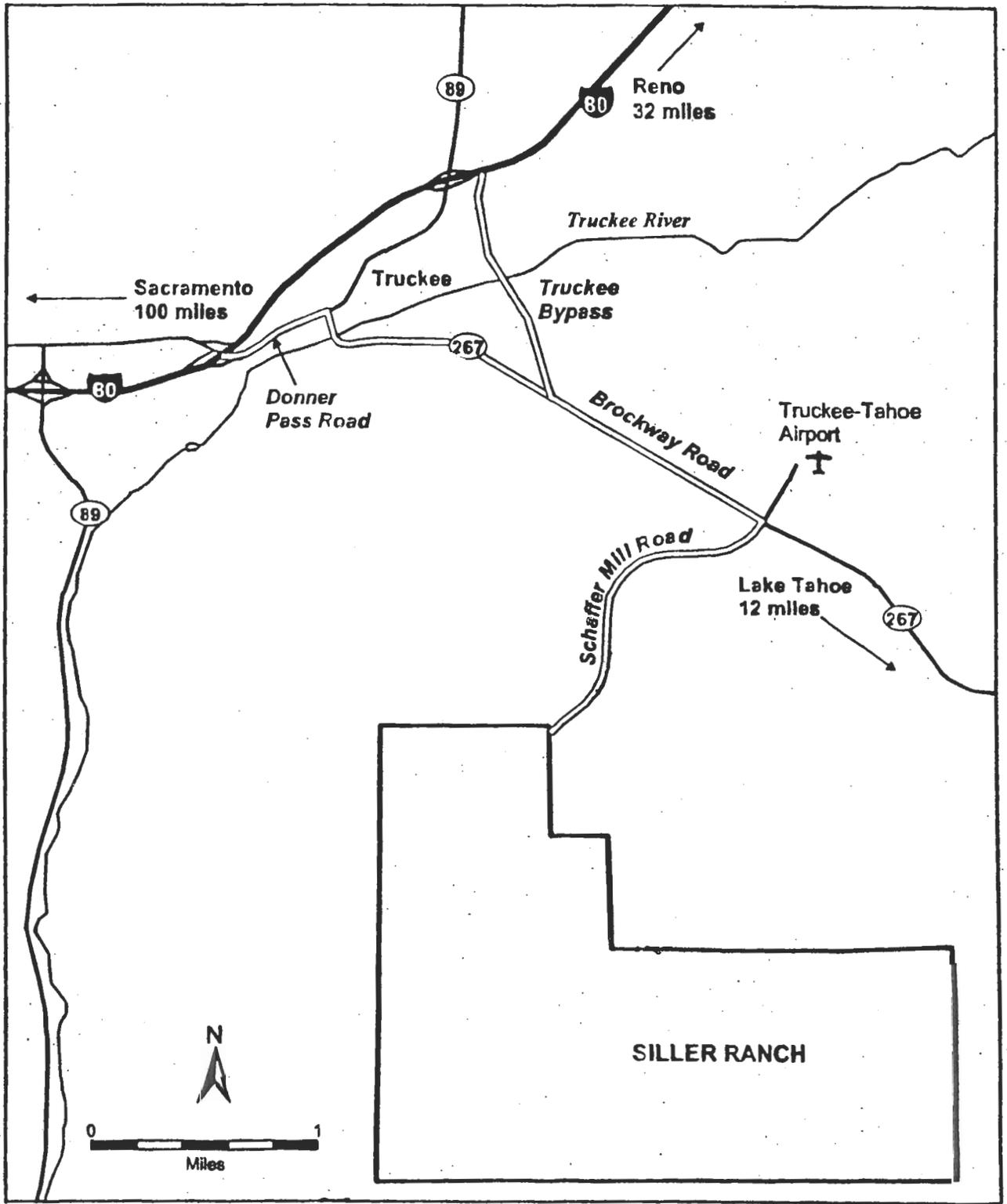
2. In addition to the impacts associated with the crossings identified in Table 2, above, DMB is required to create a minimum of 0.05 acres of wetland and 44,500 square feet of 100-year floodplain area (62,000 cubic feet of floodplain volume) as described in Finding No. 5(f) above.
3. The Water Board hereby grants an exemption to the Basin Plan prohibition stated in Finding No. 4 for the Siller Ranch Development Project, limited to the impacts identified in Table No. 2, above, and the associated wetland and floodplain mitigation/restoration activities as described in Finding No. 5, above.
3. Prior to initiating any construction activity or land disturbance within the 100-year floodplain, DMB must obtain a Clean Water Act Section 401 Water Quality Certification Order from the Water Board.
4. Prior to initiating any construction activity or disturbance within the 100-year floodplain, DMB must implement the water quality monitoring program described in the Monitoring and Reporting Program (MRP), which is hereby attached to and made part of this Resolution. DMB shall, pursuant to Section 13267 of the California Water Code, provide technical monitoring reports as described in the MRP and continue with this program until a Placer County program for monitoring cumulative effects pursuant to the MVCP has been accepted by the Water Board, or until the MRP has been modified or rescinded by the Water Board. Changes to the MRP, including, but not limited to, protocols and monitoring methods, specific locations for monitoring, reporting due dates, and other minor revisions, may be authorized by the Executive Officer or brought before the Water Board for consideration at the discretion of the Executive Officer.

I, Harold J. Singer, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of a Resolution adopted by the California Regional Water Quality Control Board, Lahontan Region, on May 12, 2006.

A handwritten signature in blue ink that reads "Harold J. Singer". The signature is written in a cursive style with a large initial "H".

HAROLD J. SINGER
EXECUTIVE OFFICER

Attachments: A. Project Vicinity Map
B. Project Site Map
C. Monitoring and Reporting Program for Siller Ranch



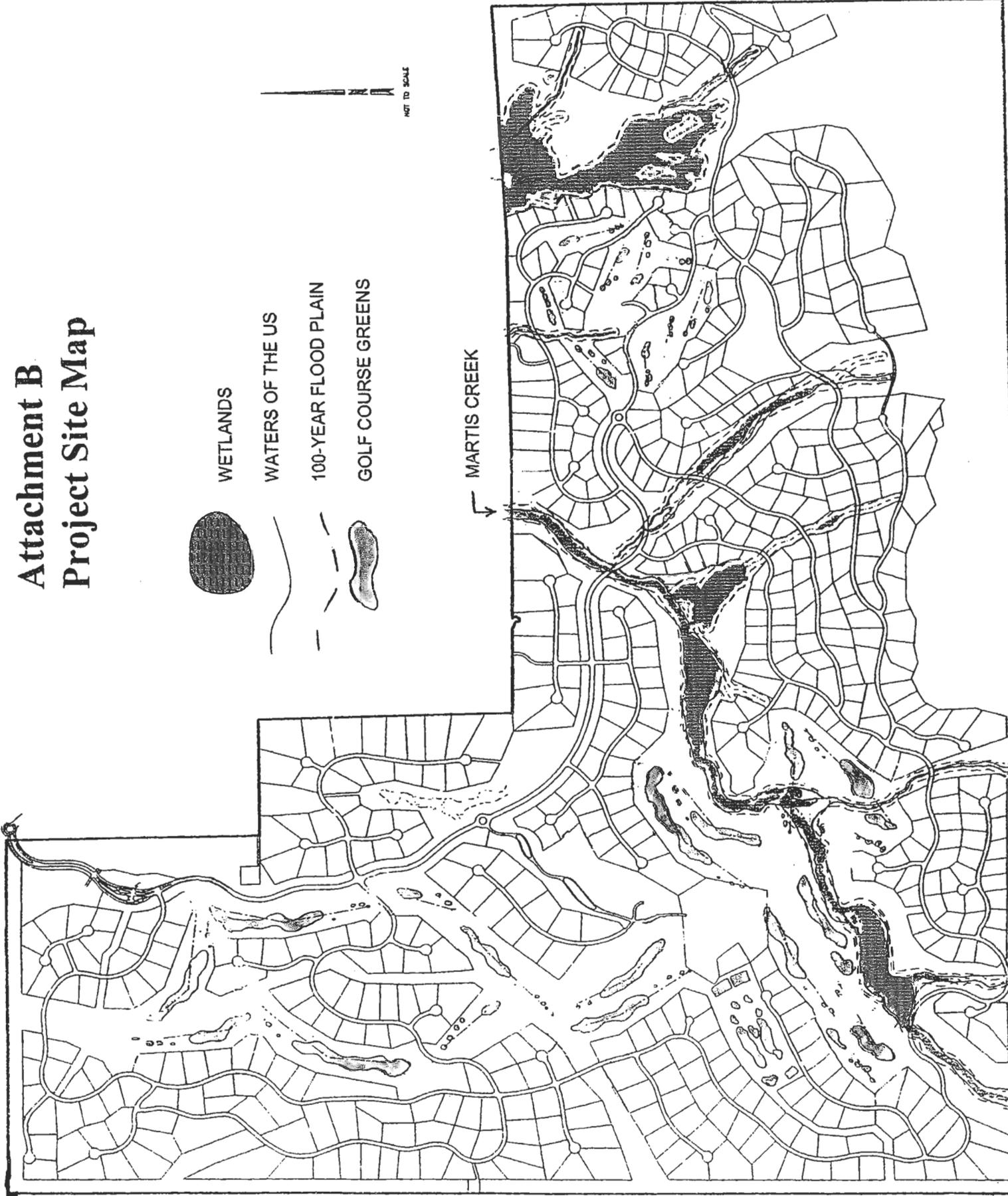
Attachment A – Project Vicinity Map

Attachment B Project Site Map

- WETLANDS
- WATERS OF THE US
- 100-YEAR FLOOD PLAIN
- GOLF COURSE GREENS



NOT TO SCALE



ATTACHMENT C MONITORING AND REPORTING PROGRAM (MRP)

The California Water Code (CWC) sections 13267 and 13383 authorize the Regional Water Quality Control Board (Water Board) to require technical and monitoring reports. For the purposes of this Monitoring and Reporting Program (MRP), DMB Highlands Group, LLC, is the “Discharger.”

I. GENERAL MONITORING AND REPORTING PROVISIONS

A. SAMPLING AND ANALYSIS

1. All analyses shall be performed in accordance with the current edition(s) of the following documents:
 - a. Standard Methods for the Examination of Water and Wastewater
 - b. Methods for Chemical Analysis of Water and Wastes, EPA
2. All analyses shall be performed in a laboratory certified to perform such analyses by the California State Department of Health Services or a laboratory approved by the Water Board Executive Officer. Specific methods of analysis must be identified on each laboratory report.
3. Any modifications to the above methods to eliminate known interferences shall be reported with the sample results. The methods used shall also be reported. If methods other than EPA-approved methods or Standard Methods are used, the exact methodology must be submitted for review and must be approved by the Water Board prior to use.
4. The Discharger shall establish chain-of-custody procedures to insure that specific individuals are responsible for sample integrity from commencement of sample collection through delivery to an approved laboratory. Sample collection, storage, and analysis shall be conducted in accordance with the Chemical Application Management Plan (CHAMP) for the Siller Ranch Development Project, Vol. 1, Appendix 4, Huffman & Carpenter, 2006, or it’s most current revision as approved by the Executive Officer.
5. The Discharger shall calibrate and perform maintenance procedures on all monitoring instruments and equipment to ensure accuracy of measurements, or shall insure that both activities will be conducted. The calibration of any wastewater flow-measuring device shall be recorded and maintained with monitoring records.
6. A grab sample is defined as an individual sample collected in fewer than 15 minutes.
7. A composite sample is defined as a combination of no fewer than eight individual samples obtained over the specified sampling period at equal intervals. The volume of each individual sample shall be proportional to the discharge flow rate at the time of sampling. The sampling period shall equal the discharge period, or 24 hours, whichever period is shorter.

B. OPERATIONAL REQUIREMENTS

1. Sample Results

Pursuant to California Water Code Section 13267(b), the Discharger shall maintain all sampling and analytical results including: date, exact place, and time of sampling; date analyses were performed; sample collector's name; analyst's name; analytical techniques used; and results of all analyses. Such records shall be retained for a minimum of three years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge, or when requested by the Water Board.

2. Operational Log

An operation and maintenance log shall be maintained at the facility. All monitoring and reporting data shall be recorded in a permanent log book.

C. REPORTING

1. For every item where the requirements are not met, the Discharger shall submit a statement of the actions undertaken or proposed which will bring the discharge into full compliance with requirements at the earliest time, and shall submit a timetable for correction.

2. Pursuant to California Water Code Section 13267(b), all sampling and analytical results shall be made available to the Water Board upon request. Results shall be retained for a minimum of three years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge, or when requested by the Water Board.

3. The Discharger shall provide a brief summary of any operational problems and maintenance activities to the Board with each monitoring report. Any modifications or additions to, or any major maintenance conducted on, or any major problems occurring to the wastewater conveyance system, treatment facilities, or disposal facilities shall be included in this summary.

4.. Monitoring reports shall be signed by:

- a. In the case of a corporation, by a principal executive officer at least of the level of vice-president or his duly authorized representative, if such representative is responsible for the overall operation of the project from which the discharge originates;
- b. In the case of a partnership, by a general partner;
- c. In the case of a sole proprietorship, by the proprietor; or
- d. In the case of a municipal, state or other public project, by either a principal executive officer, ranking elected official, or other duly authorized employee.

5. Certified Cover Letter

The Discharger shall use Attachment 3 as a certified cover letter, or a cover letter containing the same information, for all reports provided to the Water Board.

6. Modifications

This Monitoring and Reporting Program may be modified at the discretion of the Water Board Executive Officer.

D. NONCOMPLIANCE

Under Section 13268 of the Water Code, any person failing or refusing to furnish technical or monitoring reports, or falsifying any information provided therein, is guilty of a misdemeanor and may be liable civilly in an amount of up to one thousand dollars (\$1,000) for each day of violation under Section 13267 of the Water Code.

II. MONITORING LOCATIONS

The Discharger shall establish the following monitoring locations to demonstrate compliance with the limitations, discharge specifications, and other requirements in this Order:

Monitoring Location	Monitoring Location Description	Approximate Monitoring Location Latitude	Approximate Monitoring Point Longitude
C-1	Martis Creek above Siller Property (Herbst's #3)	39.27145	-120.17024
C-2	Martis Creek, above confluence on main stem and in USACOE Recreation area (Herbst's #1)	39.29719	-120.13520
C-3	Martis Creek main stem below all confluences just above Hwy 267	39.301912	-120.12046
C-4	East Fork Martis Creek above Hwy 267 near FS boundary (Herbst's #5)	39.30912	-120.10682
MC-1	Martis Creek at Property Boundary	39.2720560307	-120.171517744
MC-2	Martis Creek at downstream Property Boundary	39.2856561272	-120.153097536
MC- Corps	Martis Creek, above confluence on main stem and in USACOE Recreation area on or near Lahontan boundary (Herbst's #1)	39.29719	-120.13520
MC3	Martis Creek main stem below all confluences just above Hwy 267	39.301912	-120.12046
MC4	East Fork Martis Creek above Hwy 267 near FS boundary (Herbst's #5)	39.30912	-120.10682
GWR-1	North side of Martis Creek upstream of Shaeffer trib	39.2751493712	-120.173801091
GWR-2	North side of Martis Creek between GWR-3 and Shaeffer trib confluence w/ MC	39.27634415070	-120.170008034
GWR-3	North side of Martis Creek just upstream of confluence with trib N of Lookout Mtn	39.27801060670	-120.165635023
O-1	BMP/Lake Overflow – North side of Martis Creek just N of confluence w/ Shaeffer trib	39.27627277710	-120.171532205
O-2	BMP/Lake Overflow – North side of Martis	39.27762262440	-120.167011114

Monitoring Location	Monitoring Location Description	Approximate Monitoring Location Latitude	Approximate Monitoring Point Longitude
	Creek Between Shaeffer Trib & trib to east		
O-3	BMP/Lake Overflow – S of GRN-3	39.28894878280	-120.168092175
O-4	BMP/Lake Overflow – North side of Martis Creek just NE of right-angle bend in MC to E	39.2814932800	-120.162894498
O-5	BMP/Lake Overflow – NW of O-4	39.28333329040	-120.167720120
O-6	BMP/Lake Overflow – N of GRN-3	39.29105020340	-120.168663743
GRN-1	Various locations N of Martis Creek	39.28454268920	-120.173385203
GRN-2	Various locations N of Martis Creek	39.28768050340	-120.169419020
GRN-3	Various locations N of Martis Creek	39.28952169060	-120.168136924
GRN-4	Various locations N of Martis Creek	39.29500710070	-120.168369815
GRN-5	Various locations N of Martis Creek	39.29670922820	-120.172927497
GRN-6	Various locations N of Martis Creek	39.29391696970	-120.172622323
GRN-7	Various locations N of Martis Creek	39.28941741670	-120.174871859
GRN-8	Various locations N of Martis Creek	39.28676745650	-120.172349163
GRN-9	Various locations N of Martis Creek	39.28199765860	-120.170011348
GRN-10	Various locations N of Martis Creek	39.28212522310	-120.163091528
GRN-11	Various locations N of Martis Creek	39.27866037470	-120.166217027
GRN-12	Various locations S of Martis Creek	39.27819704370	-120.161542634
GRN-13	Various locations S of Martis Creek	39.27592459620	-120.164069334
GRN-14	Various locations S of Martis Creek	39.27679580700	-120.165433183
GRN-15	Various locations N of Martis Creek	39.27662176120	-120.170971767
GRN-16	Various locations N of Martis Creek	39.27532686720	-120.174518721
GRN-17	Various locations N of Martis Creek	39.27694765050	-120.173622813
GRN-18	Various locations N of Martis Creek	39.27871261070	-120.168691597
GRN-28	Various locations N of Martis Creek	39.28886167800	-120.164473987
GRN-29	Various locations N of Martis Creek	39.28065451800	-120.171148133
G-1	Martis Creek at SW Property Boundary	39.27159838330	-120.176424854
G-2	Schaeffer Trib at S Property Boundary	39.27164938720	-120.163603755
G-3	Martis Creek at Confluence w/ trib S of Shaeffer Mill Site on MC	39.27820497540	-120.164721872
G-4	Martis Creek at Confluence with trib N of Lookout Mtn	39.28447090320	-120.154363439
G-5	At Property Boundary on trib in West Martis Creek watershed	39.28615498920	-120.139648240

III. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER

A. Monitoring Locations: C-1, C-2, C-3, C-4

The Discharger shall monitor the above locations as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
See Master Taxonomic List in Attachment 2		Bioassessment (Targeted Riffle Composite Method)	Once/year in Summer Index Period (July 1 – August 15, when creeks are flowing)	See Attachment 1, BMSP, with metrics calculated

B. Monitoring Locations: MC-1, MC-2, MC-3, MC-4, MC-Corps

The Discharger shall monitor the above locations as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Turbidity	NTU	Near-Continuous	4x/hour	By <i>in situ</i> probe ⁽¹⁾ ; EPA 180.1 ⁽²⁾
TDS/Conductivity	Siemens per meter (S/m), mg/l lab	Potential grab sample for TDS to correlate to EC	4x/hour	TDS-Total Filterable Residue By <i>in situ</i> probe ⁽¹⁾ ; SM 2540C ⁽²⁾
PH	PH	Near-Continuous	1x/hour	By <i>in situ</i> probe ⁽¹⁾ ; EPA 150.1 ⁽²⁾
Temperature	°C	Near-Continuous	1x/hour	By <i>in situ</i> probe ⁽¹⁾
Total Suspended Solids	µg/l	Grab	Weekly	Modified Manual EPA 180.2 ⁽¹⁾ ; EPA 160.2 ⁽²⁾
Chloride	mg/l	Grab	Quarterly	EPA 300.0 ⁽²⁾ (High Sierra Water Lab sends Chloride samples to WETLAB)
Sulfate	mg/l	Grab	Quarterly	EPA 300.0 ⁽²⁾ (High Sierra Water Lab sends Sulfate samples to WETLAB)
Total Phosphorus	µg/l	Grab	Weekly	Modified Manual EPA 365.3 ⁽¹⁾ ; EPA 365.3 ⁽²⁾
Total Nitrogen	µg/l	Grab	Weekly	Calculated ^{(1); (2)}
Nitrate-Nitrogen (NO3-N)	µg/l	Grab	Weekly	Modified Manual EPA 353.1 ⁽¹⁾ ; EPA 300.0 ⁽²⁾
Ammonium-Nitrogen (NH4-N)	µg/l	Grab	Weekly	Modified Manual EPA 350.1 ⁽¹⁾ ; EPA 350.3 ⁽²⁾
Total Kjeldahl N (TKN)	µg/l	Grab	Weekly	Modified Manual EPA 351.2 ⁽¹⁾ ; EPA 351.2 ⁽²⁾
Particulate Organic N (PON)	µg/l	Grab	Weekly	Calculated ^{(1); (2)}
Petroleum	µg/l	Grab	4x/year	Modified Manual EPA 3550 or

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Hydrocarbons				3510/8015M ⁽¹⁾ ; EPA 8015M ⁽²⁾
Applied Pesticides (MC1 and MC2 Only)	µg/l	Grab	4x/year	Organochlorine pesticides Modified Manual EPA 8081A ⁽¹⁾ ; Organophosphorous pesticides Modified Manual EPA 8140 ⁽¹⁾ ; Organochlorine pesticides Modified Manual EPA 8150, 8151 ⁽¹⁾
Physical Habitat and Riparian Condition Assessment	Feet and % Fines	Follow USEPA's EMAP Protocols	1x/year	USEPA's Environmental Monitoring and Assessment Protocol (EMAP) ⁽³⁾
Flow and Precipitation	Hydrograph and inches per day (storm event based)	Instantaneous or gauged	Near-Continuous	USGS Water Supply Paper 2175; Precipitation data from Truckee Ranger Station

(1) High Sierra Water Lab, Truckee, CA. www.hswaterlab.com

(2) WETLAB, Reno, NV. www.WETlaboratory.com

(3) USEPA's EMAP Protocol www.epa.gov/emap2

C. Monitoring Locations: G-1, G-2, G-3, G-4, G-5

The Discharger shall monitor the above locations as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Total Suspended Solids (TSS)	mg/l	Grab	6x/year	Modified Manual EPA 180.2 ⁽¹⁾ ; EPA 160.2 ⁽²⁾
Total Phosphorus (TP)	mg/l	Grab	6x/year	Modified Manual EPA 365.3 ⁽¹⁾ ; EPA 365.3 ⁽²⁾
Nitrate-Nitrogen (NO3-N)	mg/l	Grab	6x/year	Modified Manual EPA 353.1 ⁽¹⁾ ; EPA 300.0 ⁽²⁾
Ammonium-Nitrogen (NH4-N)	mg/l	Grab	6x/year	Modified Manual EPA 350.1 ⁽¹⁾ ; EPA 350.3 ⁽²⁾
Total Kjeldahl N (TKN)	mg/l	Grab	6x/year	Modified Manual EPA 351.2 ⁽¹⁾ ; EPA 351.2 ⁽²⁾
Dissolved TKN	mg/l	Grab	6x/year	Modified Manual EPA 351.2 ⁽¹⁾ ; EPA 351.2 ⁽²⁾
Particulate Organic N (PON)	mg/l	Grab	6x/year	Calculated ^{(1); (2)}

(1) High Sierra Water Lab, Truckee, CA. www.hswaterlab.com

(2) WETLAB, Reno, NV. www.WETlaboratory.com

D. Monitoring Locations: O-1, O-2, O-3, O-4, O-5, O-6

The Discharger shall monitor the above locations as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Total Suspended Solids (TSS)	mg/l	Grab	4x/year	Modified Manual EPA 180.2 ⁽¹⁾ ; EPA 160.2 ⁽²⁾
Total Phosphorus (TP)	mg/l	Grab	4x/year	Modified Manual EPA 365.3 ⁽¹⁾ ; EPA 365.3 ⁽²⁾
Nitrate-Nitrogen (NO3-N)	mg/l	Grab	4x/year	Modified Manual EPA 353.1 ⁽¹⁾ ; EPA 300.0 ⁽²⁾
Ammonium-Nitrogen (NH4-N)	mg/l	Grab	4x/year	Modified Manual EPA 350.1 ⁽¹⁾ ; EPA 350.3 ⁽²⁾
Total Kjeldahl N (TKN)	mg/l	Grab	4x/year	Modified Manual EPA 351.2 ⁽¹⁾ ; EPA 351.2 ⁽²⁾
Dissolved TKN	mg/l	Grab	4x/year	Modified Manual EPA 351.2 ⁽¹⁾ ; EPA 351.2 ⁽²⁾
Particulate Organic N (PON)	mg/l	Grab	4x/year	Calculated ^{(1); (2)}

- (1) High Sierra Water Lab, Truckee, CA. www.hswaterlab.com
- (2) WETLAB, Reno, NV. www.WETlaboratory.com

E. Monitoring Locations: GRN-1 – GRN-18, GRN-28, GRN-29

The Discharger shall monitor the above locations as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Total Suspended Solids (TSS)	µg/l	Grab	6x/year	Modified Manual EPA 180.2 ⁽¹⁾ ; EPA 160.2 ⁽²⁾
Total Phosphorus (TP)	µg/l	Grab	6x/year	Modified Manual EPA 365.3 ⁽¹⁾ ; EPA 365.3 ⁽²⁾
Nitrate-Nitrogen (NO3-N)	µg/l	Grab	6x/year	Modified Manual EPA 353.1 ⁽¹⁾ ; EPA 300.0 ⁽²⁾
Ammonium-Nitrogen (NH4-N)	µg/l	Grab	6x/year	Modified Manual EPA 350.1 ⁽¹⁾ ; EPA 350.3 ⁽²⁾
Total Kjeldahl N (TKN)	µg/l	Grab	6x/year	Modified Manual EPA 351.2 ⁽¹⁾ ; EPA 351.2 ⁽²⁾
Particulate Organic N (PON)	µg/l	Grab	6x/year	Calculated ^{(1); (2)}

- (2) High Sierra Water Lab, Truckee, CA. www.hswaterlab.com
- (2) WETLAB, Reno, NV. www.WETlaboratory.com

IV. RECEIVING WATER MONITORING REQUIREMENTS – GROUND WATER

The Discharger shall monitor the following at Monitoring Locations GWR-1, GWR-2, GWR-3:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Total Suspended Solids (TSS)	µg/l	Grab	4x/year	Modified Manual EPA 180.2 ⁽¹⁾ ; EPA 160.2 ⁽²⁾
Total Phosphorus (TP)	µg/l	Grab	4x/year	Modified Manual EPA 365.3 ⁽¹⁾ ; EPA 365.3 ⁽²⁾
Nitrate-Nitrogen (NO3-N)	µg/l	Grab	4x/year	Modified Manual EPA 353.1 ⁽¹⁾ ; EPA 300.0 ⁽²⁾
Ammonium-Nitrogen (NH4-N)	µg/l	Grab	4x/year	Modified Manual EPA 350.1 ⁽¹⁾ ; EPA 350.3 ⁽²⁾
Total Kjeldahl N (TKN)	µg/l	Grab	4x/year	Modified Manual EPA 351.2 ⁽¹⁾ ; EPA 351.2 ⁽²⁾
Particulate Organic N (PON)	µg/l	Grab	4x/year	Calculated ^{(1); (2)}

(1) High Sierra Water Lab, Truckee, CA. www.hswaterlab.com

(2) WETLAB, Reno, NV. www.WETlaboratory.com

V. REPORTING REQUIREMENTS

A. Self Monitoring Reports (SMRs)

- At any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit self-monitoring reports. Until such notification is given, the Discharger shall submit self-monitoring reports in accordance with the requirements described below.
- The Discharger shall submit **quarterly and annual** Self Monitoring Reports including the results of all required monitoring using USEPA-approved test methods or other test methods specified above. **Quarterly reports shall be due on May 1, August 1, November 1, and February 1 following each calendar quarter. Annual reports shall be due on February 1 following each calendar year.**

3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period	SMR Due Date
4x/hour (MCs)	June 1, 2006 for MC- 1, MC-2 July 1, 2006 for MC-3, MC-4	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31	May 1 August 1 November 1 February 1
1x / hour (MCs)	June 1, 2006 for MC- 1, MC-2 July 1, 2006 for MC-3, MC-4	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31	May 1 August 1 November 1 February 1
1 / week (MCs)	June 1, 2006 for MC- 1, MC-2 July 1, 2006 for MC-3, MC-4	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31	May 1 August 1 November 1 February 1
6x / year (Gs, GRNs)	June 1, 2006	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31	May 1 August 1 November 1 February 1
4x / year (MCs, Os, GWRs)	June 1, 2006 for MC- 1, MC-2, Os, GWRs July 1, 2006 for MC-3, MC-4	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31	May 1 August 1 November 1 February 1
1x / year (Cs, MCs)	June 1, 2006 for MC- 1, MC-2 July 1, 2006 for MC-3, MC-4, C-1 – C-4	July 1 through September 30	November 1

4. The Discharger shall report with each sample result the applicable Minimum Level (ML) and the current Method Detection Limit (MDL).
5. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the project is operating in compliance with requirements.
6. SMRs must be provided to the Water Board, signed and certified as required by Section I, above, to the address listed below:

CRWQCB, Lahontan Region
2501 Lake Tahoe Blvd.
South Lake Tahoe, CA 96150

B. Other Reports

By June 15, 2006, the Discharger shall provide, for acceptance by the Water Board Executive Officer, a Site Selection Report verifying the final latitude and longitude of all monitoring stations and the basis for selection.



Harold J. Singer, EXECUTIVE OFFICER

Date: _____ May 12, 2006 _____

ATTACHMENTS

1. Benthic Macroinvertebrate Sampling Procedure (BMSP)
2. Master Taxonomic List
3. Reporting Template Cover Page

This current draft protocol for benthic macroinvertebrate sampling procedures are defined by Dr. David B. Herbst, Associate Research Biologist of the University of California, Sierra Nevada Aquatic Research Laboratory, who is under contract to the Lahontan Water Board and California Department of Fish and Game¹. Sampling at SWAMP sites include both a Targeted Riffle and Multi-Habitat sample method.

Benthic Macroinvertebrate Sampling Procedure

Field crews and laboratory personnel must have proper training and experience at the methods, or be under the direct supervision of person(s) who have proper training and experience. In addition, a Quality Assurance Project Plan developed following USEPA guidance must be prepared and followed.

Select sample locations according to the applicable protocol. Always sample from down-to upstream, and take care not to disturb the stream substrate prior to sample collection.

For each “kick” sample from relatively fast-moving water (i.e. non-pool habitat), place the net in the water so that the mouth of the net is perpendicular to and facing into the flow of the water. Sample an area approximately 30 square centimeters directly upstream of the net (a square area with sides equal to net width). Work from the upstream edge of the sampling plot backward and carefully pick up and rub stones directly in front of the net to remove attached animals. Dig your fingers into the substrate to a depth of about 10 cm and run your fingers through the disturbed material. Let the water run clear of any organisms or organic material before carefully lifting the net. After collecting each sample, remove large rocks or wood debris after washing them within the net using the current. If compositing multiple samples, this sample may remain in the net as subsequent samples are collected, but only in relatively fast-moving water such that organisms cannot escape. Damage and escape of organisms can be avoided by transferring the sample to a bucket periodically as described below.

If sampling in pools, take only a single collection within the tail zone of the pool (i.e. downstream third of pool zone) by sweeping or brushing the sample area into the mouth of the net; this flushing by hand will facilitate collection of the invertebrates. The net may also be used to scoop through sample area after the sweep. More than a single area sampled will usually produce too much sample volume to process and preserve.

Following sample collection, quickly dip the net into the stream to consolidate the material to the bottom of the D-net. Pick out any large rocks, wood, or debris, washing them within the net utilizing the current and making sure to remove any attached insects. Invert the net into a bucket 1/4 to 1/3 full of stream water. Shake out the net to collect all the debris and insects (do not dip in bucket water since insects will adhere). Dip net into the stream again to consolidate remaining contents and flick inverted net into the bucket.

¹ http://www.waterboards.ca.gov/lahontan/QAPPP/QAPP_Index.html Appendix 2. California Department of Fish and Game, December 2003. California Stream Bioassessment Procedure.

Generally a sample will include an excessive amount of organic matter. This can be separated and cleaned by serial rinses in a series of buckets and/or pans (generally three or four) filled with water. Following rinsing, inspect this material in a shallow white pan, either removing organic matter free of organisms, piece-by-piece, or by removing the organisms and placing them into the sample container. Once sufficient organic matter is removed, elutriate (i.e. pour off lighter material) the remaining sample with a swirling motion into another bucket, or aquarium net. Repeat, adding additional water each time, until all visible organic matter has been poured off, typically about five times. If elutriating into a bucket, use only a small volume of water in each elutriation so the receiving bucket does not overflow. Only rocks and sand should be left in the original bucket. Pour a portion of the remaining rocks and sand into a shallow white pan. Search all the remnant sample for any remaining organisms (most often denser, cased organisms such as caddisflies, midges, snails, and clams) and add to sample if found until the entire sample has been searched.

Strain collected material through a fine mesh aquarium net supported on one bucket (this may also serve as elutriation since some sand usually remains). Gently squeeze (i.e. so as not to damage organisms) excess water from the net-bound sample, and then transfer it into a sample container. Use BioQuip forceps to scrape any remaining debris into vial. Fill container with ethanol to preserve the bugs. Fill to a level such that the sample debris is no more than one-half to two-thirds of the volume (otherwise use a larger volume container, or two containers for the sample). Add a small volume of rose bengal stain, and gently stir with forceps to release air trapped in the sample.

Label each sample container using labeling tape as shown below:

Stream	Sample Type or
Site name	Replicate Number
Date	(# Kicks)

In the “sample type or replicate number” space record the protocol used (i.e. targeted riffle or multi-habitat), the habitat type sampled (i.e. riffle or pool), and/or the replicate number (i.e. #1), as appropriate. If two containers are used, label as above for each but call one 1 of 2 and the other 2 of 2.

Equipment:

- Waders or appropriate water shoes
- D-net (250 or 500 μ m mesh, 30-cm wide, tapered, 40 to 60 cm long)
- 2 Buckets
- Aquarium net
- BioQuip forceps
- 2 white exam trays

- 100% ethanol
- Rose Bengal stain
- Field data record sheet

Sample containers are typically Fisher brand polypropylene jars in volumes of 125, 250, or 500 ml, selected depending on the sample protocol used and quantity of organic matter in the sample. These containers sometimes leak alcohol when shaken or not stored upright. If these conditions are likely to occur during transport (i.e. from long hikes or bumpy roads), seal the container lid using electrical tape. This tape can remain until the container is opened for processing and invertebrate identification in the laboratory. Upon arrival at the laboratory, drain and replace the alcohol for samples with a high proportion of organic matter to ensure proper preservation.

Standard Sampling Methods

Targeted Riffle Method (500 μm D-net)

See Figure 1 for a schematic description of this method.

Field sampling: Select four riffle units within the 150 meter reach using a random number table. If fewer riffle series are available, assign additional sample locations by proportion to the size of each riffle. Working from down- to upstream, use a 500 μm D-net to collect two kick samples from each riffle, determining their specific locations using a random number table (i.e. generate two random digits for each sample location; multiply each by ten to get the percent upstream along the riffle unit's length and the percent of the total width from the left bank, respectively). If this location cannot be sampled because it is too deep or it is occupied by a large boulder, select a new pair of random numbers to determine a new location. Composite and process all eight kick samples together. For each sample location, record the dominant substrate size-class, and the presence of wood, algae, or aquatic vegetation within the sample quadrat on an invertebrate field sampling record sheet. As each sample is collected, it should be placed into the composite bucket before taking the next sample. This method is flexible with respect to number of riffles sampled (2 each from the 4 longest riffles, and up to 1 each from 8 randomly-selected riffles), and the flow – fast-water habitat may also be included where riffles are not clearly defined or are rare.

Laboratory processing: Use a rotating drum splitter to obtain a sub-sample of about 500 estimated organisms after serial splits (1 split = $\frac{1}{2}$ fraction, 2 = $\frac{1}{4}$, 3 = $\frac{1}{8}$, 4 = $\frac{1}{16}$, 5 = $\frac{1}{32}$, and 6 = $\frac{1}{64}$). In practice the split taken for a target riffle composite is often in the range of 4 to 6. All organisms in the split are identified and counted, with at least 550 needed. If below this number, then another split fraction is processed, identified and counted. Taxonomy is generally performed to the lowest practical taxon, based on the availability of taxonomic keys. Midges and mites represent significant diversity and are identified to the genus level, and species-group for midges in some cases. Follow the template (Martis 2004 Invert data – template) for taxonomic resolution to ensure consistency with previous studies. A grid-tray sub-sampling procedure may also be acceptable, with prior approval from water board staff.

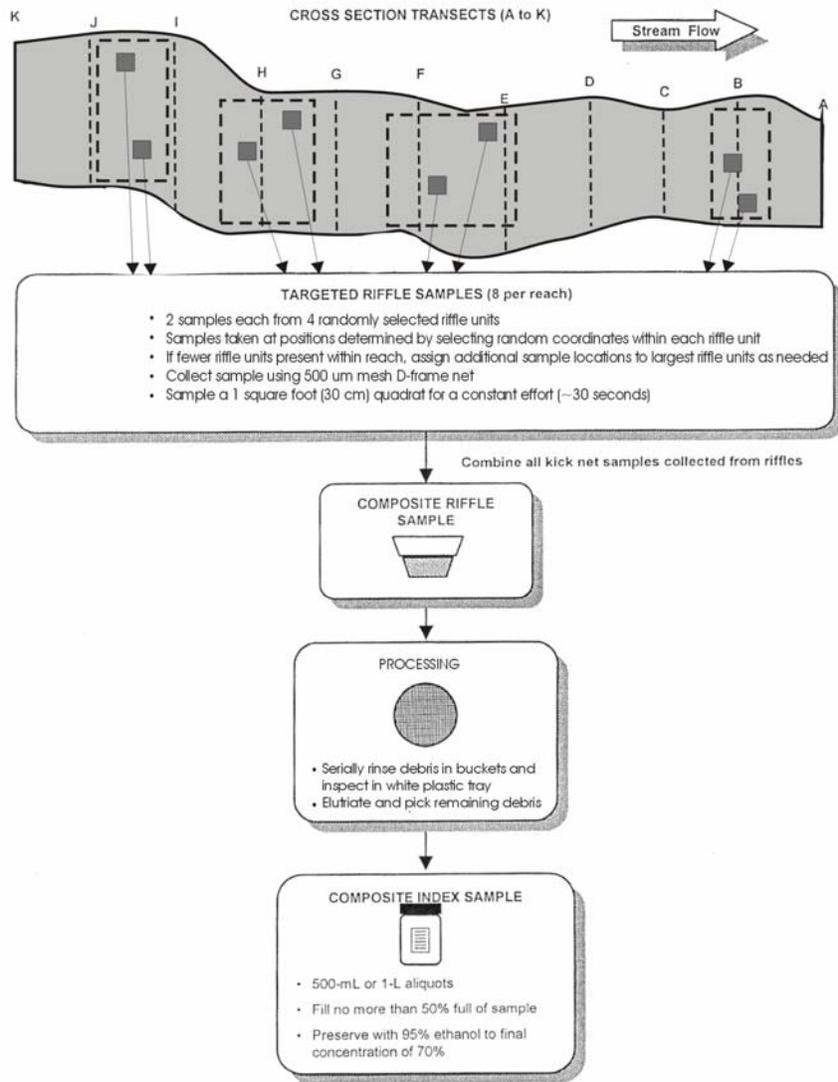
Data analysis and submittal: Submit results in electronic format, using the template provided (Martis 2004 Invert data – template).

De-contamination Procedures

Where applicable, follow all procedures recommended by the California Department of Fish and Game to prevent the spread of New Zealand Mud Snails. See:

http://www.dfg.ca.gov/fishing/html/administration/mudsnail/mudsnail_0.htm

Figure 1: Schematic diagram of the Targeted Riffle Protocol.



ATTACHMENT 2

Master Taxonomic List
for
Siller Ranch Monitoring and Reporting Program

ATTACHMENT 3

Date _____

California Regional Water Quality Control Board
Lahontan Region
2501 Lake Tahoe Boulevard
South Lake Tahoe, CA 96150

Facility Name:

Address:

Contact Person:

Job Title:

Phone:

Email:

WDR/NPDES Order Number:

WDID Number:

Type of Report (circle one):

Monthly Quarterly Semi-Annual Annual Other

Month(s) (circle applicable month(s)*:

JAN FEB MAR APR MAY JUN
JUL AUG SEP OCT NOV DEC

*annual Reports (circle the first month of the reporting period)

Year:

Violation(s)? (Please check one):

_____ **NO** _____ **YES***

***If YES is marked complete a-g (Attach Additional information as necessary)**

a) Brief Description of Violation:

b) Section(s) of WDRs/NPDES

Permit Violated:

c) Reported Value(s) or Volume:

**d) WDRs/NPDES
Limit/Condition:**

**e) Date(s) and Duration of
Violation(s):**

f) Explanation of Cause(s):

**g) Corrective Action(s)
(Specify actions taken and a schedule
for actions to be taken)**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision following a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my knowledge of the person(s) who manage the system, or those directly responsible for data gathering, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

If you have any questions or require additional information, please contact _____ at the number provided above.

Sincerely,

Signature: _____

Name: _____

Title: _____